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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,694	08/05/2003	Se-Youn Lim	5000-1-425	7568
33942	7590	05/11/2007		
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			EXAMINER LEVITAN, DMITRY	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/11/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.		Applicant(s)	
	10/634,694		LIM ET AL.	
	Examiner		Art Unit	
	Dmitry Levitan		2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Amendment, filed 5/20/07, has been entered. Claims 1-4 and 6-13 remain pending.

Drawings

1. The drawings are objected to because typographical error in Fig. 6.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: OCLETS and multiple entries in the table of Fig. 6

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The attempt to incorporate subject matter into this application by reference to Korean Application is ineffective because the incorporation of essential material in the specification by reference to foreign application or patent, or to a publication is improper.
4. The attempt to incorporate subject matter into this application by reference to IEEE 802.z and ITU-T G983.1 are ineffective because the cited patents are subject of multiple revisions and changes, some revisions can be dated after the Application has been filed; and ITU-T documents are not publicly available.
5. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).
6. The disclosure is objected to because of the following informalities: typographical errors on page 6 line 4, as the text should read “completed” and multiple words are randomly segmented. Applicant should review all application for random segmentation of the words.

Appropriate correction is required.

Requirement for information under 37 CFR 1.105

7. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to develop the disclosed subject matter that describes the applicant's invention, particularly appropriate portions of IEEE 802.3z, ITU-T G983.1 and IEEE 802.3ah EFM TF, Draft v1.0.

The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

This Office action has an attached requirement for information under 37 CFR 1.105. A complete reply to this Office action must include a complete reply to the attached requirement for information. The time period for reply to the attached requirement coincides with the time period for reply to this Office action.

Oath/Declaration

8. Substitute Declaration, submitted on 11/03/2003, to correct citizenship of an inventor, has been accepted.

Claim Objections

9. Claim 13 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 13 is dependant on claim 11, but the limitations of claims 11 and 13 are identical.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 3 and 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claims 3 and 8, how to distribute static allocated bandwidth information, as the bandwidth allocation process was not properly disclosed.

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The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-4 and 6-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 4 limitations directed to assigning by the OLT identifications and starting by the OLT OAM capability discovery are unclear, because it is not understood if these two actions are performed in one step/message or two steps/messages of the claims, and if the starting action is performed before or after the assigning action.

Claim 1 recites the limitation "the OLT identifications" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the OAM capabilities" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 limitations directed to a second OAM capability messages are unclear, as the first message is not clearly defined in the claim 1 limitations.

Claims 1 and 4 limitations combining "second" and "messages" are confusing, as it is unclear if the claim limitations are directed to one message or plural messages.

Claim 4 recites the limitation "the OLT identifications" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the first step" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the field for representing the operational state" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 limitations, directed to "one of claims 4" are unclear, because it is not understood what is "one of claims 4", making claim 12 incomplete.

Claims 1-4 and 6-13 contain numerous antecedent problems, as the rejections above are only examples of the antecedent problems. All claims should be revised for clarity.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-4 and 6-9 are rejected (as best understood) under 35 U.S.C. 103(a) as being unpatentable over Gaglianello (ONU auto discovery, IEEE 802.3ah Ethernet in the First Mile Task Force, May, 2002) in view of Admitted Prior Art (Application, pages 2 and 3).

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16. Regarding claims 1, 4, 7 and 9, Gaglianello substantially teaches an auto discovery by OLT capabilities of multiple ONUs connected to the OLT in a PON network, (ONU discovery process on pages 3-6), comprising steps:

assigning by the OLT identification numbers to ONUs according to the ONU registration request, wherein the request comprises the OLT capabilities (REGISTER REQUEST message from ONU, shown on page 9, as the message comprise OLT and ONU capabilities and PHY ID, as the OLT capabilities have been delivered to ONUs by GATE message), and

receiving by the OLT the ONU capabilities message (receiving by OLT the ONU register request message, comprising the ONU capabilities, shown on page 9).

Gaglianello does not teach the passive optical network (PON) as an Ethernet PON and the OLT and ONU capabilities to include Operations, Administration and Maintenance (OAM) functions.

Admitted Prior Art, APA, teaches using IEEE 802.3ah EFM TF, Draft v1.0 to utilize Ethernet based PON and OAM capabilities as a basic function for the network 3:5-10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using Ethernet PON and Operations, Administration and Maintenance (OAM) functions of APA to the system of Gaglianello to improve the system compatibility with a popular IEEE 802.3ah standard.

In addition, regarding claims 4, 7 and 9, Gaglianello teaches predetermined period of time for reporting/registering ONUs by using discovery gates to define discovery windows for retransmission of the discovery messages on pages 11 and 13; and confirming the ONU registrations by OLT register command on page 9.

17. Regarding claim 2, Gaglianello teaches OLT confirming the received capabilities message to the ONU, as echo of ONU capabilities from OLT to ONU, as shown on page 9.

18. Regarding claim 6, Gaglianello teaches ONU collision resolution process to retransmit the ONU message if the message has not been acknowledged, page 11.

19. Regarding claims 3 and 8, Gaglianello teaches sending messages comprising ONU and OLT capabilities, including PHY ID, as shown on Fig. 9.

Gaglianello does not teach using a first field to specify allocated bandwidth and a second field to specify information on the network topology.

Official notice is taken that using fields in a message is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using first field to comprise bandwidth as the network elements capabilities and a second field with PHY ID of the network element to the system of Gaglianello to improve the system operation with user's different bandwidth requirements.

20. Claims 10 and 12 are rejected (as best understood) under 35 U.S.C. 103(a) as being unpatentable over Gaglianello in view of APA in view of Sutherland (US Pub. 2003/0177215).

Gaglianello in view of APA substantially teaches the limitations of claims 10 and 12.

Gaglianello in view of APA does not teach a field for representing an operation state of the message.

Sutherland teaches a discovery technique for EPON system, including the message structure, comprising an opcode 532, specifying the type of function for the control frame, as shown on Fig. 5 and [0055].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a field for representing an operation state of the message of Sutherland to the system of Gaglianello in view of APA to improve the system operation with multiple type of frames by identifying the type of the frame function.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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Art Unit 2616